

# LOWER BRAZOS RIVER FLOOD PROTECTION PLANNING STUDY

KICK-OFF MEETING  
ANGLETON, TEXAS  
DECEMBER 2, 2014

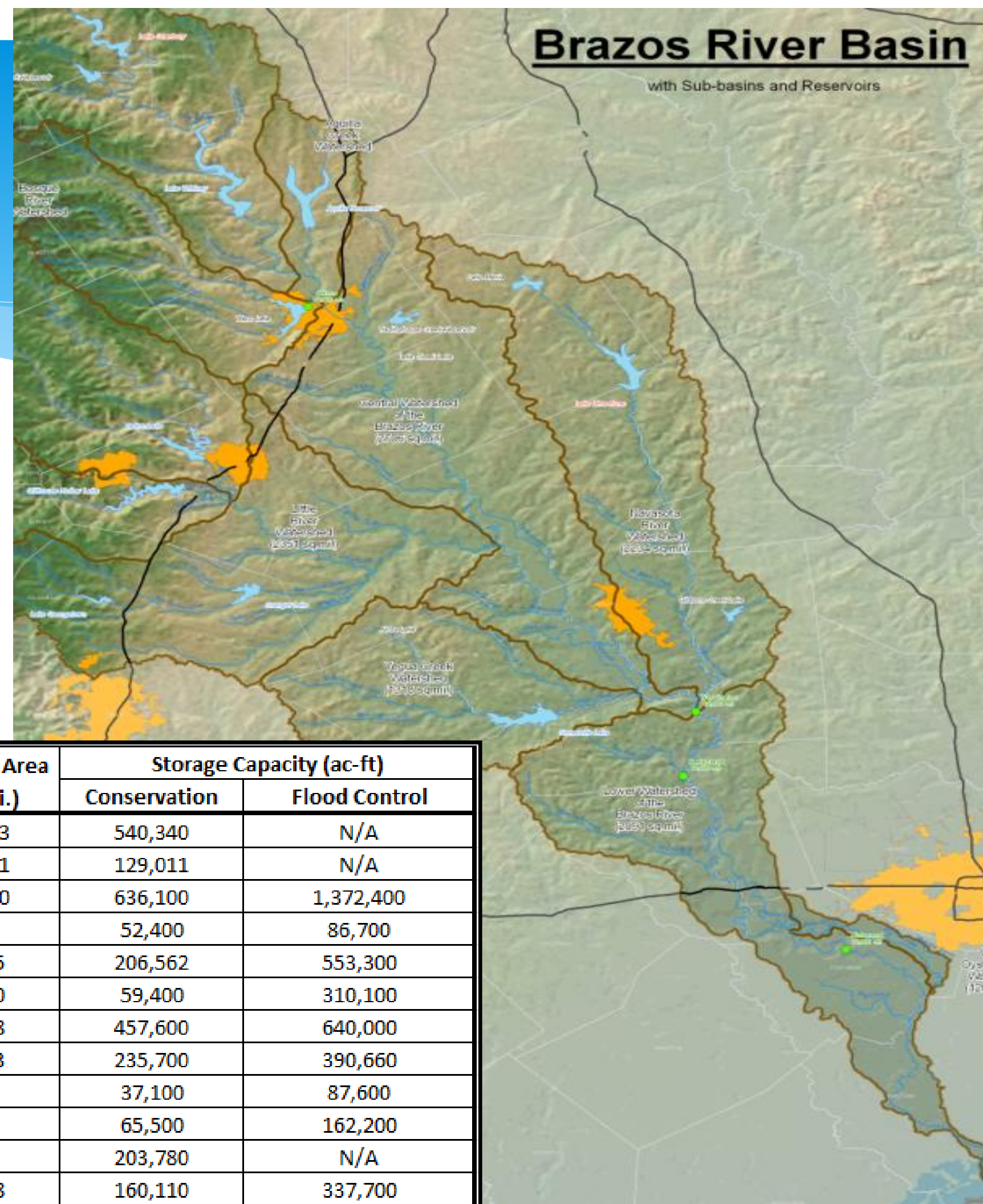
# Reasons for the Study

- \* One of the fastest growing areas in the country
- \* Hydrologic and hydraulic models/data are dated outside of Fort Bend County
- \* Need for consistent modeling methodology across county boundaries
- \* Need to assess lower Brazos watershed from a comprehensive basinwide perspective (existing conditions and alternatives)
- \* 9,500 square miles of uncontrolled drainage area



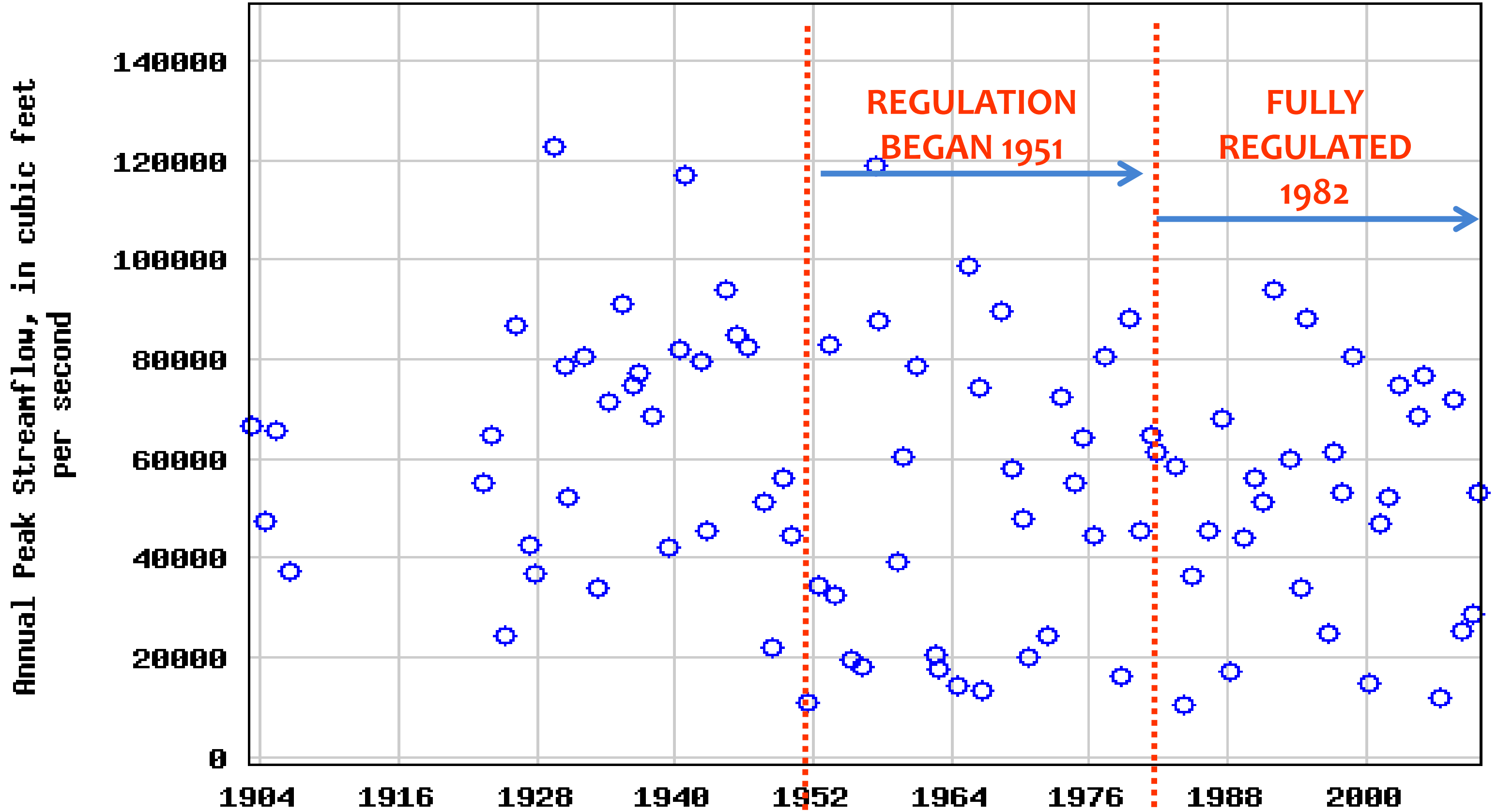
# USACE & BRA

## Reservoirs in the Brazos River Basin



Reservoir	Drainage Area (sq. mi.)	Storage Capacity (ac-ft)	
		Conservation	Flood Control
Possum Kingdom	14,093	540,340	N/A
Granbury	16,181	129,011	N/A
Whitney	17,690	636,100	1,372,400
Aquilla	254	52,400	86,700
Waco	1,655	206,562	553,300
Proctor	1,280	59,400	310,100
Belton	3,568	457,600	640,000
Stillhouse Hollow	1,313	235,700	390,660
Georgetown	247	37,100	87,600
Granger	726	65,500	162,200
Limestone	678	203,780	N/A
Somerville	1,008	160,110	337,700

# USGS 08114000 Brazos Rv at Richmond, TX



# Goals of the Study

- \* Quantify existing flooding issues and flood damage reduction alternatives
- \* Update hydrologic and hydraulic data for the lower Brazos River
- \* Calibrate new models to historical events and provide flood volumes, flood depths, and flood durations
- \* Facilitate land use planning, emergency response, and sound floodplain management



# History of Project

- \* 2012-2013 – Local entity meetings with BRA and Halff
- \* January 22, 2014 - BRA applied for TWDB FPP Grant
- \* May 15, 2014 – TWDB approves funding for Phase I (\$514,784)
- \* June 11, 2014 – BRA issues RFQ for Lower Brazos Flood Study
- \* November 4, 2014 – Halff and BRA execute contract for study
- \* November 21, 2014 – Final interlocal agreements signed by BRA for Phase I



# Scope of Work

- \* Project Management
- \* Terrain Development
- \* Base Map Data Collection
- \* Hydrologic Analysis
- \* Field Survey
- \* Hydraulic Analysis
- \* Alternatives Formulation
- \* Flood Damage Analysis Modeling
- \* Environmental Constraints Analysis
- \* Documentation



# Schedule – Phase I

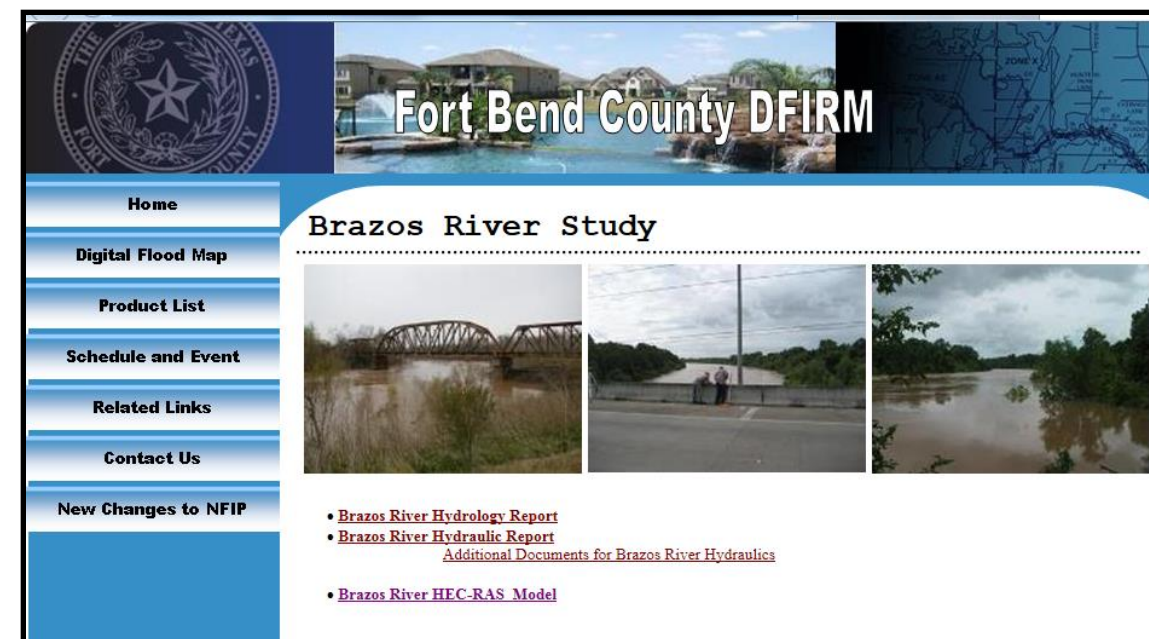
- \* Terrain Development – March 2015
- \* Data Collection – February 2015
- \* Hydrology – September 2015
- \* Field Surveys – June 2015
- \* Hydraulics – February 2016
- \* Alternatives Formulation – June 2016
- \* Flood Damage Analysis – June 2016
- \* Environmental Constraints Analysis – April 2016
- \* Draft Report – October 2016
- \* Final Report – April 2017





# Incorporation of Fort Bend Co. Data

- \* DFIRM Update for Fort Bend County (2009)
  - \* Hydrology: 2006 Flood Frequency Analysis (LJA Engineering & Surveying)
  - \* Hydraulics: HEC-RAS Hydraulic Model



# Data Needs

1. Highwater marks
2. Highwater/flood photos
3. Existing reports/models related to Brazos River
4. Historic flooding newspaper articles

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# Coordination with FEMA and U.S. Army Corps of Engineers

- \* BRA, TWDB, and Halff met with FEMA and USACE in October 2014.
- \* FEMA – Discovery process on-going. Focusing on tributaries.
- \* USACE – Will begin development of CWMS models in Spring of 2015
- \* Plan to collaborate and share data between agencies.



# Phase II TWDB FPP Grant Application

- \* Current contract and grant is for Phase I only
  - \* Hydrologic Analysis for Entire Watershed
  - \* Detailed Hydraulics Downstream of Richmond Gauge
- \* Phase II would include detailed hydraulics from Grimes/Waller County Line to Richmond Gauge
- \* 2015 TWDB FPP Grant Applications due February 25, 2015
- \* Phase II: \$600,000 (50% TWDB/50% Local)



Questions?